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## **Smithsonian Magazine Special Section Features Simulated Human Lungs Developed by EPA Scientist**

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Research Triangle Park, NC.....A supercomputer model that simulates the human lung, developed by a scientist at the U.S. Environmental Protection Agency's National Health and Environmental Effects Research Laboratory, is one of the innovations to be featured in a special section of Smithsonian magazine's November issue. The magazine is a publication of the Smithsonian Institution in Washington, D.C.

The software simulator was developed by Ted Martonen, Ph.D., a research physicist who received the 1997 Computerworld Smithsonian Award for Medicine. As a recipient, the research was added to the Smithsonian Institution's Permanent Research Collection on information technology at the National Museum of American History in Washington, D.C.

In a special section of the magazine, called "Faces of Innovation," the editors selected innovations that are considered to have had a dramatic impact on the advancement of information technology. The innovations were picked from a list of some 2,600 past recipients and nominees of the Computerworld Smithsonian Awards, presented annually by the Smithsonian Institution.

The mathematical model provides three-dimensional computer simulations of human lungs, consisting of up to 20 million airways. The model maps the paths of inhaled substances, making it useful to toxicologists in assessing the negative effects of air pollution on human lungs and to physicians for targeting the delivery of inhaled medicines used for respiratory diseases.

The supercomputer technology is being used in clinical studies of aerosol chemotherapy to treat lung cancer, chronic obstructive pulmonary disease and asthma.

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